

**Amendments to the Claims:** This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1. (Currently Amended) A system for timing an image acquisition, comprising:

a source controller triggering an optical source to illuminate a target during an on-time period;

a delay block coupled to the source controller, imposing a delay interval starting at the triggering of the optical source, the delay block triggering an image acquisition at the end of the delay interval, wherein after the image acquisition the source controller turns both the optical source off and the image acquisition off, so that the on-time period of the optical source is longer than an on-time period of the image acquisition, and

the delay interval defines an optical charge pulse that provides light to a sensor prior to triggering the image acquisition,

wherein the optical charge pulse charges the sensor to compensate for dark current discharge in the sensor, and the sensor provides the image acquisition.

2. (Original) The system of claim 1 wherein triggering the optical source to illuminate the target includes detecting a transition that turns the optical source off, imposing a delay period that starts at the detected transition, and actuating a trigger at the end of the delay period for triggering the optical source to illuminate the target.

3. (Canceled)

4. (Original) The system of claim 1 wherein the source controller provides first control signal to the optical source and to the delay block, and wherein the delay block generates a second control signal in response to the first control signal.

5. (Original) The system of claim 4 wherein the first control signal includes a first transition triggering the optical source to illuminate the target and a second transition that turns the optical source off.

6. (Original) The system of claim 4 wherein the second control signal includes a transition triggering the image acquisition at the end of the delay interval.

7. (Original) The system of claim 5 wherein the second control signal includes a transition triggering the image acquisition at the end of the delay interval.

8. (Original) The system of claim 4 wherein triggering the image acquisition includes providing the second control signal to an image processor within an optical imaging system.

9. (Original) The system of claim 5 wherein triggering the image acquisition includes providing the second control signal to an image processor within an optical imaging system.

10. (Canceled)

11. (Canceled)

12. (Currently Amended) A method for timing an image acquisition, comprising:

triggering an optical source to illuminate a target during an on-time period;

imposing a delay interval starting at the triggering of the optical source;

triggering an image acquisition at the end of the delay interval; and

after the image acquisition, turning both the optical source and the image acquisition  
off;

wherein the delay interval defines an optical charge pulse that provides light to a sensor within an optical imaging system prior to the triggering of the image acquisition, and

wherein the optical charge pulse charges the sensor to compensate for dark current discharge in the sensor, and the sensor provides the image acquisition, and

wherein the on-time period of the optical source is longer than an on-time period of the image acquisition.

13. (Original) The method of claim 12 wherein triggering the optical source to illuminate the target includes detecting a transition that turns the optical source off, imposing a

delay period that starts at the detected transition, and actuating a trigger at the end of the delay period for triggering the optical source to illuminate the target.

14. (Canceled)

15. (Canceled)

16. (Original) The method of claim 12 wherein the triggering the optical source to illuminate the target is provided by a first transition and the turning the optical source off is provided by a second transition.

17 (Original) The method of claim 12 further comprising providing a first control signal triggering the optical source to illuminate the target.

18 (Original) The method of claim 16 further comprising providing a first control signal that provides the first transition and the second transition.

19. (Original) The method of claim 17 further comprising providing a second control signal in response to the first control signal, the second control signal triggering the image acquisition at the end of the delay interval.

20. (Original) The method of claim 18 further comprising providing a second control signal in response to the first control signal, the second control signal triggering the image acquisition at the end of the delay interval.